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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/661,428 | 09/13/2000 | Toshikazu Hori | 21.1967/WMS | 8410 |
| 21171 | 7590 | 05/05/2004 | EXAMINER | |
| STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005 | | | LE, BRIAN Q | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2623 | |
| DATE MAILED: 05/05/2004 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|------------------------|------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/661,428 | HORI ET AL. |
| | Examiner Brian Q Le | Art Unit 2623 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 24 March 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-16 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 24 March 2004 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

Response to Amendment and Arguments

1. Applicant's amendment filed March 24, 2004, has been entered and made of record.
2. Regarding the Recordation of Assignment, the Examiner does not receive Form PTO-1595 filed by the Applicant. However, attachments are sent with the Office Actions to show the recorded Assignee.
3. Objections to claims 1-14 have been withdrawn.
4. Objections to drawing figures have been withdrawn.
5. Rejections regarding claims 1-14 under 35 U.S.C 112, second paragraph is withdrawn.
6. Applicant's arguments with regard to claims 1-16 have been fully considered, but are not considered persuasive because of the following reasons:

Regarding claims 1 and 2, the Applicant argues that (top of page 12) that the Examiner does not suggest that Shirasaki discloses the same multiple/first/second recognition program and the recognition methods. The Examiner would like the Applicant to fully consider the previous Office Actions of the specific cited locations where the Examiner had pointed out for all the limitations. In addition, the Examiner used Hotta but not Shirasaki to teach this limitation. Also the Applicant argues that there is a lack of motivation to combine Hotta and Shirasaki. As indicated that Hotta does not clearly indicate the teaching of an output device to designate the non-coinciding locations extracted by the extraction device and to output character recognition results for the text image. Shirasaki also teaches a character recognition method that corrects misrecognized characters (abstract) and outputs the non-coinciding characters (misrecognized characters) (FIG. 33, G6-G8). Modifying Hotta's method of recognizing and correcting misrecognized characters according to Shirasaki would able to further process, output and

Art Unit: 2623

display the misrecognized character so that the operator can further selected the appropriate character (see column 25, lines 34-56). Thus, Shirasaki clearly discloses the motivation to combine with Hotta's reference. Also, it is a designer choice of whether to display the misrecognized characters to further verify the recognized characters by the operator. This would improve processing and therefore, it would have been obvious to one of the ordinary skill in the art to modify Hotta according to Shirasaki.

Thus, the rejections of all of the claims are maintained.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hotta U.S. Patent No. 6,345,119 and further in view of Shirasaki U.S. Patent No. 6,341,176.

Regarding to claim 1, Hotta teaches a character recognition device to recognize characters in a text image (abstract) read by an image scanner (FIG. 4, box 1), comprising:

A multiple recognition device (multiple recognition programs) to separately perform character recognition of the text image using respective recognition methods (FIG. 4, boxes 9-11, and box 15);

An extraction device to extract locations of non-coinciding results (misrecognized cluster of characters) in the characters recognized by the respective recognition methods (FIG. 18, S26); and

An output device to output the amended non-coinciding results (column 7, lines 28-34).

Hotta does not clearly indicate the teaching of an output device to designate the non-coinciding locations extracted by the extraction device and to output character recognition results for the text image. Shirasaki also teaches a character recognition method that corrects misrecognized characters (abstract) and outputs the non-coinciding characters (misrecognized characters) (FIG. 33, G6-G8). Modifying Hotta's method of recognizing and correcting misrecognized characters according to Shirasaki would able to further output and display the misrecognized character so that the operator can further selected the appropriate character. Also, it is a designer choice of whether to display the misrecognized characters to further verify the recognized characters by the operator. This would improve processing and therefore, it would have been obvious to one of the ordinary skill in the art to modify Hotta according to Shirasaki.

Regarding claim 2, as explained in claim 1, Hotta further teaches a first recognition device (first program module) to recognize the characters in the text image using a first character recognition method (one-character recognition) (FIG. 1, element 102); and a second recognition device (second program module) to recognize the characters in the text image using a second character recognition method different from the first character recognition method (personal handwriting characteristics processing) (FIG. 1, element 104);

For claims 3-4, as discussed in claim 1, since Shirasaki teaches the concept of recognize and output the non-coinciding results. It would be obvious that that output device would show the contrast (difference) between the text image and the character recognition result so that the operator would be able to distinguish the misrecognized characters. For further elaboration, please refer to Shirasaki (FIG. 17, C6-C9 and FIG. 44).

Regarding claims 5-6, as discussed in claims 3-4, Shirasaki teaches a character recognition device further comprising:

A display having a display screen to display character recognition results (FIG. 44), Wherein the output device contrasts the text image and the character recognition results while displaying the character recognition results on the display screen, and displays a cursor in a display area of the character recognition results while display the text image in the format that designates the location (horizontal and vertical distance, X and Y) of the text image coordinated at the position of cursor (column 27, lines 1-37).

Referring to claims 7-8, Shirasaki further teaches a character recognition device further comprising an output device to output a symbol that do not coincide instead of the recognized characters (FIG. 4, FIG. 19, FIG. 35, and FIG. 40).

Regarding claims 9-10, Shirasaki discloses a character recognition device further comprising an output device to output the recognized characters with a high evaluation value for the non-coinciding locations that have the same number of recognized characters in an output format that is different from the output format of the non-coinciding locations (FIG. 43-44).

For claims 11-12, Shirasaki also teaches an output device to output the recognized characters of the non-coinciding locations selected using a prescribed standard (threshold value) (FIG. 9, A66) for the non-coincident locations with a different number of recognized characters in a format that is different from the output format for the non-coinciding locations

Regarding claims 13-14, Shirasaki further teaches a character recognition device further comprising an output device to output in a format indicating that the recognition results coincide

Art Unit: 2623

but have a low recognition liability (level of uncertainty) (column 3, lines 1-26, 59-67 and column 4, lines 25-40).

For claims 15 and 16, please refer back the claims 1-2 for further explanation.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Q Le whose telephone number is 703-305-5083. The examiner can normally be reached on 8:30 A.M - 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703-308-6604. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-5397 for regular communications and 703-308-5397 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

BL

April 30, 2004

SAMIR AHMED
PRIMARY EXAMINER

Patent Assignment Abstract of Title

Total Assignments: 1

Application #: 09661428 **Filing Dt:** 09/13/2000 **Patent #:** NONE **Issue Dt:**
PCT #: NONE **Publication #:** NONE **Pub Dt:**
Inventors: Tsutomu Matsushita, Norikazu Shiya, Toshikazu Hori, Kouji Yoshimoto
Title: Character recognition device and method for detecting erroneously read characters, and computer readable medium to implement character recognition

Assignment: 1

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Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

| | |
|--|----------------------------|
| Assignors: <u>HORI, TOSHIKAZU</u> | Exec Dt: 09/06/2000 |
| <u>YOSHIMOTO, KOJI</u> | Exec Dt: 09/06/2000 |
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If you have any comments or questions concerning the data displayed, contact OPR / Assignments at 703-308-9723
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